

Title (en)
Working machine

Title (de)
Arbeitsmaschine

Title (fr)
Machine de travail

Publication
EP 1829811 B1 20100519 (EN)

Application
EP 07103399 A 20070302

Priority
JP 2006058772 A 20060304

Abstract (en)
[origin: EP1829811A2] At an inner circumference side of a lower ring (11) and an upper ring (16), flange parts (17,18) are formed respectively, and a ring-shaped clamp device (19) is arranged at the inner circumference side, and separated at four points, into a front side, back side, left side, and right side, and divided into four divided clamps (31a,31b,31c,31d). At the separation points of front and back sides, the left (31d,31c) and right (31a,31b) divided clamps are rotatably connected with each other (at 32), and at the separation points of left and right sides, the front and back divided clamps are connected to cylinders (34) respectively. By the extension/contraction operation, the front and back clamps move between joint and separation positions, and if the front and back clamps position at the joint points, predetermined spaces are formed between the divided clamps (31a-31d). Lock blocks (41) to be inserted into the spaces for regulating return of the divided clamps (31a-31d) to the separation positions are provided.

IPC 8 full level
B66C 23/62 (2006.01); **B66C 23/84** (2006.01)

CPC (source: EP US)
B66C 23/62 (2013.01 - EP US); **B66C 23/84** (2013.01 - EP US); **E02F 9/121** (2013.01 - EP US); **F16C 19/30** (2013.01 - EP US); **F16C 35/067** (2013.01 - EP US); **F16C 2300/14** (2013.01 - EP US); **F16C 2326/00** (2013.01 - EP US); **F16C 2350/26** (2013.01 - EP US)

Cited by
CN102485633A; CN111519691A

Designated contracting state (EPC)
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC MT NL PL PT RO SE SI SK TR

DOCDB simple family (publication)
EP 1829811 A2 20070905; EP 1829811 A3 20081217; EP 1829811 B1 20100519; AT E468298 T1 20100615; CN 100528732 C 20090819; CN 101028909 A 20070905; DE 602007006569 D1 20100701; JP 2007238190 A 20070920; JP 4412297 B2 20100210; US 2007207663 A1 20070906; US 7419064 B2 20080902

DOCDB simple family (application)
EP 07103399 A 20070302; AT 07103399 T 20070302; CN 200710084427 A 20070302; DE 602007006569 T 20070302; JP 2006058772 A 20060304; US 67319407 A 20070209